

## **AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

### **Listing of Claims:**

Claims 1-13 (Canceled)

14. (New) A method for monitoring the functional capability of a particle detector (3) in a gas flow stream, using a regenerated particle filter (7) connected upstream of the particle detector (3) in terms of the flow direction (2), the method comprising,
- regenerating the particle filter,
  - detecting particles that occur in the regeneration of the particle filter (7) by the particle detector (3), and
  - comparing the resultant measurement finding with an expected finding.
15. (New) The method of claim 14, wherein the expected finding from the measurement of the particle detector (3) is determined on the basis of the fill status of the particle filter (7) and on the regeneration conditions.
16. (New) The method of claim 14, comprising
- using a soot filter (7) which can be regenerated by being burned off, and detecting ions that occur during the regeneration by the soot detector (3).

17. **(New)** The method of claim 15, comprising

using a soot filter (7) which can be regenerated by being burned off, and detecting ions that occur during the regeneration by the soot detector (3).

18. **(New)** The method of claim 16, further comprising

measuring the temperature in, at or downstream in the flow direction (2) of the soot filter (7), and

determining the expected finding of the measurement by the soot detector (3) from the fill status of the soot filter (7) and the measured temperature.

19. **(New)** The method of claim 14, further comprising determining the deviation of the measurement finding from the expected finding and comparing the deviation with a limit value, and if the limit value is exceeded the particle detector (3) is classified as defective.

20. **(New)** The method of claim 14, wherein, during the monitoring of the functional capability of the particle detector (3), the regeneration conditions are changed by increasing the temperature in the environment of the soot filter (7).

21. **(New)** The method of claim 15, wherein, during the monitoring of the functional capability of the particle detector (3), the regeneration conditions are changed by increasing the temperature in the environment of the soot filter (7).

22. **(New)** The method of claim 16, wherein, during the monitoring of the functional capability of the particle detector (3), the regeneration conditions are changed by increasing the temperature in the environment of the soot filter (7).
23. **(New)** The method of claim 19, wherein, during the monitoring of the functional capability of the particle detector (3), the regeneration conditions are changed by increasing the temperature in the environment of the soot filter (7).
24. **(New)** The method of claim 16, wherein for regeneration of the soot filter (7), the temperature in its environment is increased to above 500°C, preferably to from 600 to 1000°C.
25. **(New)** The method of claim 19, wherein for regeneration of the soot filter (7), the temperature in its environment is increased to above 500°C, preferably to from 600 to 1000°C.
26. **(New)** The method of claim 20, wherein for regeneration of the soot filter (7), the temperature in its environment is increased to above 500°C, preferably to from 600 to 1000°C.
27. **(New)** A system for monitoring the functional capability of a particle detector (3), using a regeneratable particle filter (7) connected upstream of the particle detector (3) in terms of the flow direction (2), the system comprising,

means for regenerating the filter (7), and  
a control and evaluation unit (9), operable during the regeneration of the particle filters (7) to detect measurement findings furnished by the particle detector (3) and compare the detected measurements with expected findings.

28. **(New)** The system of claim 27, wherein the control and evaluation unit (9) is designed such that by means of a predetermined model, an expected measurement finding can be determined from the current fill status of the filter and the given regeneration conditions.

29. **(New)** The system of claim 21, further comprising a temperature sensor (8) located in, at or downstream in the flow direction (2) of the particle filter (7).

30. **(New)** A control and evaluation unit (9) for a system as defined by claim 27.

31. **(New)** A computer program with program code means, for performing the steps of claim 14, if the computer program is executed on a computer or a corresponding computer unit, in particular of the control and evaluation unit (9) in a system of claim 27.

32. **(New)** A computer program with program code means, for performing the steps of claim 24, if the computer program is executed on a computer or a corresponding computer unit, in particular of the control and evaluation unit (9) in a system of claim 27.

33. (New) A computer program product with program code means which are stored in memory on a computer-readable data medium, for performing the method of claim 14, if the computer program product is executed on a computer or a corresponding computer unit, in particular of the control and evaluation unit (9) in a system of claim 27.